

**COMMONWEALTH OF VIRGINIA  
STATE AIR POLLUTION CONTROL BOARD**

**ORDER**

**ISSUED TO  
MIRANT POTOMAC RIVER, LLC**

**Registration No. 70228**

**SECTION A: Purpose**

This is an Order issued under the authority of Va. Code §§ 10.1-1307D and 10.1-1307.1, for the purpose of ensuring compliance with ambient air quality standards incorporated at 9 VAC Chapter 30, 9 VAC 5-20-180I, and Va. Code § 10.1 -1307.3(3) at the Potomac River Power Station located in Alexandria, Virginia.

**SECTION B: Definitions**

Unless the context clearly indicates otherwise, the following words and terms have the meanings assigned to them below:

1. “Va. Code” means the Code of Virginia (1950), as amended.
2. “Board” means the State Air Pollution Control Board, a permanent collegial body of the Commonwealth of Virginia as described in Va. Code §§ 10.1-1301 and 10.1-1184.
3. “Department” or “DEQ” means the Department of Environmental Quality, an agency of the Commonwealth of Virginia as described in Va. Code § 10.1-1183.
4. “Director” means the Director of the Department of Environmental Quality.
5. “EPA” means the United States Environmental Protection Agency.
6. “The Order” or “this Order” means this document.
7. “ACO” means the Administrative Compliance Order by Consent issued by EPA to Mirant on June 1, 2006, resolving EPA’s December 22, 2005, Notice to Mirant alleging that Mirant did not immediately undertake the necessary action to protect human health and the environment in violation of 9 VAC 5-20-180I and the federally -enforceable Virginia State Implementation Plan.
8. “Order by Consent” means the consent order entered into between Mirant and the Department effective September 23, 2004, that required Mirant to perform a dispersion modeling analysis to assess the effect of Downwash (the “downwash study”) of emissions from the Facility and

further required Mirant devise with the Department and comply with a plan to eliminate any exceedances of the NAAQS.

9. "Mirant" means Mirant Potomac River, LLC, a limited liability company certified to do business in Virginia. Mirant Potomac River, LLC is owned by Mirant Mid -Atlantic, LLC.
10. "Facility" means the Potomac River Generating Station owned and operated by Mirant located at 1400 North Royal Street, Alexandria, Virginia, 22314. The Facility is a five unit, 488 MW coal-fired electric generating plant.
11. "The Permit" means the Stationary Source Permit to Operate issued by DEQ to the Facility on September 18, 2000, pursuant to 9 VAC 5-80-800, *et seq.*
12. "Marina Towers" means a multiple -unit residential condominium building located at 501 Slaters Lane, Alexandria, Virginia, in proximity to the Facility.
13. "Downwash" means the effect that occurs when aerodynamic turbulence induced by wind over nearby structures causes pollutants from an elevated source (such as a stack) to be mixed rapidly toward the ground resulting in higher ground-level concentrations of pollutants.
14. "NAAQS" means the primary National Ambient Air Quality Standards established by EPA for certain pollutants, including sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), ozone, and particulate matter 10 microns across (PM<sub>10</sub>), and particulate matter 2.5 microns across (PM<sub>2.5</sub>), pursuant to § 109 of the federal Clean Air Act, 42 USC § 7409, set forth at 40 CFR Part 50 and incorporated at 9 VAC Chapter 30. NAAQS are established at concentrations necessary to protect public health with an adequate margin of safety.
15. "State Air Toxic Pollutant Standards" means the requirements of Virginia's "Emission Standards for Toxic Pollutants From New and Modified Sources" set forth at Article 5, 9 VAC 5-60-300, *et seq.*
16. "SO<sub>2</sub>" means sulfur dioxide, which is a pollutant resulting from the combustion of fossil fuels and a precursor to the formation of secondary particulate matter.
17. "NOx" means oxides of nitrogen, which are pollutants resulting from the combustion of fossil fuels and a precursor to the formation of ozone and secondary particulate matter.
18. "PM<sub>10</sub>" means particulate matter with an aerodynamic diameter less than or equal to 10 micrometers and is a pollutant resulting from, among other things, the combustion of fossil fuels.
19. "PM<sub>2.5</sub>" means particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers and is a pollutant resulting from, among other things, the combustion of fossil fuels.

20. “HCl” means hydrogen chloride, which is a toxic pollutant under the State Air Toxic Pollutant Standards.
21. “HF” means hydrogen fluoride, which is a toxic pollutant under the State Air Toxic Pollutant Standards.
22. “Stack Merge Project” means the proposal by Mirant to reconfigure and merge the Facility stacks and exhaust system in a manner that would reduce Downwash in most cases and otherwise abate the impact of emissions on the area surrounding the Facility for some operational scenarios, while for other operational scenarios downwash and impacts on the area surrounding the Facility may increase.
23. “AERMOD Default” means Version 04300 of the AERMOD computer model using BIP PRIME derived direction-specific dimensions, currently recommended for use by EPA in settings with downwash.
24. “AERMOD EBD” means the most recent EPA-approved version of AERMOD computer model with modified direction-specific building dimensions derived from the Wind Tunnel Study.
25. “Wind Tunnel Study” means a study undertaken by Mirant pursuant to the ACO using a physical model, as outlined in CPP Wind’s Wind Tunnel Model Evaluation protocol, dated January 17, 2006, which has been submitted to EPA for approval and conducted to derive alternatives to AERMOD-Default direction-specific effective building dimensions for the Facility.
26. “DOE” means the United States Department of Energy.
27. “DOE Order” means Order No. 202 -05-3, issued by the Department of Energy on December 20, 2005 in Docket No. EO-05-01, in response to an Emergency Petition and Complaint filed by the District of Columbia Public Service Commission, as subsequently modified and extended by DOE.
28. “Line Outage Situation” means that one or more of the 230 kV transmission lines serving the Central D.C. area are out of service due to a planned or unplanned outage, and that PJM directs the Facility to operate pursuant to the DOE Order.
29. “Modeled NAAQS Exceedance” means a modeled 3-hour average sulfur dioxide concentration which, when a background concentration of 238.4 micrograms per cubic meter is added, exceeds 1,300 micrograms per cubic meter; or a modeled 24-hour average sulfur dioxide concentration which, when a background concentration of 55 micrograms per cubic meter is added, exceeds 365 micrograms per cubic meter; or a modeled 24-hour PM<sub>10</sub> concentration which, when a background concentration of 45 micrograms per cubic meter is added, exceeds 150 micrograms per cubic meter.

30. “Model Evaluation Study” or “MES” means the study submitted by Mirant and approved by EPA pursuant to the ACO to compare multiple computer model predicted ambient air impacts to actual measured ambient air concentrations for the purpose of determining the best performing computer model in evaluating the effects of the emissions resulting from the operation of the Facility.
31. “MES Protocol” means the protocol submitted by Mirant pursuant to ACO and approved by the EPA for the purpose of preparing the MES.
32. “Monitoring Plan” means the plan submitted by Mirant pursuant to the ACO and approved by EPA for the installation and use of ambient air monitors in the vicinity of the Facility to monitor ambient air quality impacts of the Facility.
33. “Revised Monitoring Plan” means a plan to be submitted by Mirant pursuant to this Order and approved by the Department for the purpose of determining proper location and use of ambient air monitors in the vicinity of the Facility to monitor ambient air quality impacts of the Facility.
34. “Monitors” means the ambient SO<sub>2</sub> and PM<sub>2.5</sub> air monitors installed in accordance with the Revised Monitoring Plan.
35. “Non-Line Outage Situation” means all periods of time that do not qualify as a Line Outage Situation.
36. “Operating Parameters” means the hourly average MW load of each unit for each hour of that day at the Facility, the hourly average SO<sub>2</sub> emission rate expressed in lb/MMBtu for each unit for each hour of that day, the hourly average stack exhaust velocity for each unit for each hour of that day, and the hourly stack exhaust temperature for each unit for each hour of that day.
37. “Operating Plan” means the December 30, 2005, Operating Plan submitted to DOE by Mirant to respond to the requirement for a compliance plan under the DOE Order.
38. “Predictive Modeling” means the daily use of an approved AERMOD computer model with forecasted weather conditions and planned Operating Parameters for the following day to predict modeled SO<sub>2</sub> and PM<sub>10</sub> NAAQS compliance and compliance with applicable State Air Toxic Pollutant Standards on a day-ahead basis.
39. “PJM” means the regional transmission organization for the region where the Facility is located which has authority to direct operations at the Facility during Line Outage Situations pursuant to the DOE Order.

## **SECTION C: Findings of Fact and Conclusions of Law**

1. In April 2004, certain residents of Alexandria, Virginia, provided the Department with a document entitled "Screening-Level Modeling Analysis of the Potomac River Power Plant Located in Alexandria, Virginia" prepared by Sullivan Environmental Consulting, Inc., dated March 29, 2004 ("the Sullivan Screening"). The Sullivan Screening was commissioned by residents of the neighborhood surrounding the Facility for the purpose of assessing whether emissions from the Facility may cause exceedances of certain NAAQS at Marina Towers as a result of "downwash." The Sullivan Screening concluded that, "on average, meteorological conditions associated with plume impaction conditions on the Marina Towers condominium were screened to occur as often as 1,200 hours per year."
2. Although the Sullivan Screening did not establish conclusively that emissions from the Facility result in exceedances of the NAAQS at Marina Towers, the Department believed the results of the Sullivan Screening warranted that further comprehensive analysis be conducted in accordance with the Department and EPA approved modeling procedures in order to more fully ascertain the effect of emissions from the Facility on the ambient air quality at Marina Towers and in the area surrounding the Facility.
3. Pursuant to the Order by Consent entered into by Mirant and the Department effective September 23, 2004, Mirant performed a dispersion modeling analysis using AERMOD Default to assess the effect of Downwash (the "downwash study") of emissions from the Facility. The downwash study used computer modeling to predict ambient concentrations of pollutants emitted by the Facility for a full range of regional atmospheric conditions.
4. Mirant provided the results of the downwash study to the Department on August 17, 2005. By letter dated August 19, 2005, the Department informed Mirant that the downwash study demonstrated that emissions from the Facility resulted in, caused or substantially contributed to, modeled violations of the primary NAAQS for SO<sub>2</sub>, NO<sub>2</sub>, and PM<sub>10</sub>.
5. The Department's August 19, 2005 letter also requested Mirant to immediately undertake "such action as is necessary to ensure protection of human health and the environment, in the area surrounding the Potomac River Generating Station" pursuant to 9 VAC 5-20-180I.
6. In response to the Department's August 19th letter Mirant shut down all five units of the Facility at midnight on August 24, 2005.
7. On August 24, 2005, the District of Columbia Public Service Commission ("DCPSC") filed an "Emergency Petition and Complaint" with the DOE and the Federal Energy Regulatory Commission ("FERC"), respectively, pursuant to the Federal Power Act ("FPA"), 16 U.S.C. § 824a(c), 824f and 825h, and Section 301(b) of the DOE Organization Act, 42 U.S.C. § 7151(b). The Emergency Petition and Complaint requested that DOE find that an emergency existed under Section 202(c) of the FPA and issue an order requiring Mirant to continue operation of the Facility.

8. Following additional AERMOD Default modeling and assessment of the downwash study, Mirant re -started Unit 1 of the Facility on September 21, 2005. Additional modeling conducted by Mirant indicated that operation of only Unit 1 with curtailment in its operations would not cause or significantly contribute to any modeled SO<sub>2</sub> and PM<sub>10</sub> NAAQS exceedances.
9. On December 20, 2005, the Secretary of Energy issued the DOE Order finding that an emergency existed and ordering Mirant to operate in a manner that would not cause or significantly contribute to an exceedance of the NAAQS during Non-Line Outage Situations and to “utilize pollution control equipment and measures to the maximum extent possible to minimize the magnitude and duration of any exceedance of the NAAQS” during Line Outage Situations. The DOE Order, among other things, required Mirant to submit a plan to DOE detailing the steps to be taken to ensure Mirant’s compliance with the DOE Order. The DOE Order, modified as discussed below and extended by DOE, remains in effect as of the effective date of this Order.
10. On December 30, 2005, Mirant submitted to DOE an Operating Plan proposing two options for operating under Non-Line Outage Situations. According to Mirant, Option A provided for less electric reliability but would not result in exceedances of the NAAQS; Option B on the other hand provided for greater electric reliability but would have resulted in exceedances of the NAAQS in certain Non-Line Outage Situations (Option A called for fewer operating hours and lower emissions than Option B).
11. By letter dated January 4, 2006, DOE required that Mirant “immediately” implement Option A of the proposed Operating Plan.
12. In accordance with DOE’s directive to maximize electric generation while not causing or significantly contributing to a NAAQS violation, Mirant supplemented Option A of the Operating Plan with additional operating configurations and modeling. The supplements (numbered 1 through 5) to Option A called for the use of Trona injection and a blend of low sulfur coal to manage SO<sub>2</sub> emissions. According to Mirant, the supplemental operating scenarios would result in no modeled NAAQS exceedances.
13. By letter dated December 22, 2005, EPA issued a Notice to Mirant alleging that Mirant did not immediately undertake the necessary action to protect human health and the environment required by the Department’s August 19, 2005 letter, and that Mirant was therefore in violation of 9 VAC 5 -20-180I and the federally -enforceable Virginia State Implementation Plan (“SIP”) for the period of time in which it failed to immediately shut down all the Facility units.
14. On June 1, 2006, EPA issued to Mirant the Administrative Compliance Order by Consent (“ACO”). The ACO gave Mirant the option of conducting an MES for the purpose of determining the best performing computer model in evaluating the effects of emissions from the Facility on the surrounding area. Mirant elected to conduct an MES pursuant to the terms of the ACO.

15. The ACO required Mirant, while conducting the MES, to operate on a daily basis at levels no greater than those that would assure that emissions of SO<sub>2</sub> and PM<sub>10</sub> from the Facility did not result in localized modeled exceedances of the SO<sub>2</sub> and PM<sub>10</sub> NAAQS pursuant to Predictive Modeling during Non-Line Outage Situations.
16. The ACO further required Mirant to install at the Facility a system to inject Trona into each unit while it is operating to reduce emissions of SO<sub>2</sub>.
17. The ACO further required Mirant to install and continuously operate six SO<sub>2</sub> monitors in the vicinity of the Facility at prescribed preferred or alternate locations. The ACO required Mirant to quickly reduce operations if monitored SO<sub>2</sub> readings reached 80% of the NAAQS.
18. Notwithstanding the provisions discussed above, the ACO required Mirant to operate pursuant to directives from the regional electric grid operator, PJM, during Line –Outage Situations, while taking all reasonable steps to limit emissions of PM<sub>10</sub>, SO<sub>2</sub> and NOx.
19. By letter dated June 2, 2006, DOE instructed Mirant to operate the Facility in accordance with the requirements of Part IV of the ACO during Non-Line Outage Situations. In that letter, DOE determined that operation of the Facility under Option A pursuant to its January 4, 2006, letter did not provide an adequate level of electric reliability to the District of Columbia and that operation under Part IV of the ACO, in particular under the Model Evaluation Study, was necessary to assure an acceptable level of reliability under the circumstances.
20. Only four of six monitors were placed at the preferred or alternate locations as required in the ACO. At no time have the Facility's operations under Predictive Modeling pursuant to the terms of the ACO under Non-Line Outage Situations resulted in a monitored exceedance of the SO<sub>2</sub> NAAQS at the six monitoring locations or in monitored concentrations of SO<sub>2</sub> approaching 80% of the NAAQS during Non-Line Outage situations. At multiple times during the course of the ACO, the Facility's operations under Follow-up Modeling pursuant to the terms of the ACO resulted in modeled exceedances of the SO<sub>2</sub> NAAQS. For some periods, these modeled violations may have occurred where no monitors were located.
21. During the course of the ACO, the Department, EPA, and Mirant have continued to work to devise a long-term solution to ensure that emissions from the Facility do not harm public health or the environment as directed by the September 23, 2004, Order by Consent and in accordance with Virginia and federal law.
22. Towards this end, the Board has commenced a process to develop and issue Mirant a permit containing emission limits to assure that operation of the Facility does not result in exceedances of the NAAQS or applicable State Air Toxic Pollutant Standards.
23. The ACO expires by its terms on June 1, 2007. Pursuant to 9 VAC 5-20-180I, this Order is intended to extend the Facility's operation under Predictive Modeling on an interim basis until a permit is issued to Mirant with emission limits protective of the NAAQS and the applicable State Air Toxic Pollutant Standards for HCl or HF. This Order shall require the

installation and operation of additional SO<sub>2</sub> monitors as well as the installation and operation of PM<sub>2.5</sub> monitors in the vicinity of the Facility and PM continuous emissions monitors (“CEMs”) on each of the Facility’s five (5) stacks. Installation, calibration and operation of such monitors will be outsourced to an independent contractor acceptable to the DEQ at Mirant’s expense.

## **SECTION D: Agreement and Order**

Accordingly, the Board, by virtue of the authority granted it in Va. Code §§ 10.1-1307D and 10.1-1307.1 orders Mirant, and Mirant agrees, to perform the actions described in this section of the Order:

### **Use of Trona**

1. Mirant shall maintain and operate a Trona injection system on all five units at the Facility. Mirant shall inject Trona into the exhaust gas of each unit while it is operating for the purpose of complying with this Order. Mirant shall also conduct a comprehensive analysis of post-trona flyash that includes, but is not limited to, particle size distribution, elemental composition, pH, alkalinity and TCLP sampling on a weekly basis. Samples shall not include bottom ash.

### **Operations in Accordance with Daily Predictive Modeling**

2. From June 2, 2007, Mirant shall operate the Facility in a manner that does not cause or significantly contribute to Modeled NAAQS Exceedances by using Predictive Modeling described as follows: By 10 AM each morning, Mirant shall collect actual weather predictions from the National Weather Service for the Reagan National Airport and use them along with planned Operating Parameters as inputs to conduct a computer modeling run for the following day using AERMOD EBD (or AERMOD Default until such time as EPA approves the Wind Tunnel Study in the event EPA has not approved the Wind Tunnel Study by June 2, 2007). If the modeling predicts that Mirant’s planned operations for the following day will not result in a Modeled NAAQS Exceedance for SO<sub>2</sub> or PM<sub>10</sub>, or the applicable State Air Toxic Pollutant Standards for HCl or HF, Mirant may operate on the day modeled in accordance with the modeled Operating Parameters. If the Predictive Modeling indicates that the planned Operating Parameters will result in one or more Modeled NAAQS Exceedances for SO<sub>2</sub> or PM<sub>10</sub>, or the applicable State Air Toxic Pollutant Standards for HCl or HF, Mirant shall not run under those operating parameters but shall continue to adjust its planned operations and conduct additional modeling runs using the adjusted Operating Parameters to confirm that the adjusted operations will not cause or significantly contribute to a modeled exceedance of a PM<sub>10</sub> or SO<sub>2</sub> NAAQS or the applicable State Air Toxic Pollutant Standards for HCl or HF for the day modeled.
3. On a forecasted Air Quality Action Day with AQI > 100 (Codes Orange, Red and Purple), Predictive Modeling shall not be allowed and operations shall be pursuant to a NAAQS compliance operational scenario as established in Appendix 1 of this Order.

4. From the effective date of this Order, Mirant shall continue to operate the six (6) SO<sub>2</sub> monitors approved by EPA under the Monitoring Plan pursuant to the terms of the ACO. Mirant shall also install and operate four (4) additional SO<sub>2</sub> monitors, five (5) continuous PM<sub>2.5</sub> monitors, five (5) speciated PM<sub>2.5</sub> reference-method monitors (placed at locations of maximum modeled impacts) and PM CEMs on each of the Facility's five (5) stacks. All such monitors shall be installed, calibrated and operational by July 15, 2007. All SO<sub>2</sub> monitors and data loggers will be configured to store and print-out on an hourly basis the 5-minute values used to determine the hourly SO<sub>2</sub> average value. It shall be the responsibility of the selected, outsourced contractor to ensure that the monitors are operated, maintained, and subject to the appropriate QA/QC provisions set forth at Appendix A to 40 C.F.R. Part 58.
5. Within 30 days of the effective date of this Order, Mirant shall submit to the Department a detailed description of how it conducts daily Predictive Modeling, including a description of the National Weather Service weather predictions used by Mirant and how predictions are integrated into other meteorological data. Mirant also shall submit within 30 days of the effective date of this Order to the Department for its approval: 1) a description of how it conducts daily Predictive Modeling and follow-up modeling for HCl and HF; and 2) an explanation of the background air quality numbers used for the daily Predictive Modeling and follow-up modeling for SO<sub>2</sub>, PM<sub>10</sub>, HCl and HF.

#### **PM<sub>10</sub> and SO<sub>2</sub> Predictive Modeling**

6. From June 2, 2007, whenever Mirant operates four or more units, it shall abide by an emission rate of 0.055 lb/MMBtu for PM<sub>10</sub> for each unit and shall conduct Predictive Modeling using these rates to determine whether operation of the units causes or contributes to Modeled NAAQS Exceedances. Fugitive emissions must also be included in the Predictive Modeling evaluation, with emissions apportioned according to the predicted daily output of the Facility versus its total maximum daily potential output. If the Predictive Modeling indicates that the planned Operating Parameters will result in a Modeled NAAQS Exceedance for PM<sub>10</sub>, Mirant shall adjust its planned operating scenarios and re-run the Predictive Modeling with an emission rate of 0.055 lb/MMBtu until such time as Mirant confirms through predictive Modeling that the adjusted operations will not cause or significantly contribute to a Modeled NAAQS Exceedance for PM<sub>10</sub>.
7. From June 2, 2007, Mirant shall abide by an emission rate of 0.40 lb/MMBtu for SO<sub>2</sub> based on a calendar day average and an emission rate of 0.35 lb/MMBtu based on a 30-day rolling average. The average SO<sub>2</sub> emission rates shall be calculated based on the actual SO<sub>2</sub> emissions (lbs) divided by the total heat input (MMBtu) for all operating boilers during the averaging period. Mirant shall conduct Predictive Modeling using rates not to exceed these limits to determine whether operation of the units causes or contributes to a Modeled NAAQS Exceedance. If the Predictive Modeling indicates that the planned Operating Parameters will result in a Modeled NAAQS Exceedance for SO<sub>2</sub>, Mirant shall adjust its planned operating scenarios and re-run the Predictive Modeling with a lower emission rate until such time as Mirant confirms through Predictive Modeling that the adjusted operations will not cause or significantly contribute to a Modeled NAAQS Exceedance for SO<sub>2</sub>.

## **SO<sub>2</sub> Control and Monitoring**

8. From June 2, 2007, Mirant shall maintain and operate a monitor alert system in the Facility's Control Room that registers an audible alarm if in any one hour the average measured ambient concentration of SO<sub>2</sub> at any Monitor is equal to or greater than 800 µg/m<sup>3</sup>.
  - a. During the hour following the sounding of the alarm, Mirant shall make operational adjustments, which may include increasing Trona injection and/or decreasing operation and shall observe the effect of these adjustments on the average, measured ambient concentration of SO<sub>2</sub>.
  - b. If, at the end of the second hour, the average measured ambient concentration of SO<sub>2</sub> is not equal to or less than 800 µg/m<sup>3</sup>, Mirant shall adjust its operations to conform to the scenarios described in Appendix 1 to this Order until the hourly average SO<sub>2</sub> concentrations are maintained at or less than 800 µg/m<sup>3</sup>.
9. Mirant shall also monitor hourly SO<sub>2</sub> ambient concentrations. If any one-hour period exceeds 800 µg/m<sup>3</sup>, Mirant shall reduce operations until such time as the hourly concentrations are maintained at or less than 800 µg/m<sup>3</sup>.

## **Follow-Up Modeling**

10. From the effective date of this Order Mirant shall perform "follow-up," also known as "hindcast," computer modeling using actual weather conditions and Operating Parameters, and shall report the results to the Department, EPA and the City of Alexandria on a weekly basis, as described below. This "follow-up" modeling will be performed on the Monday following the previous week of operation. If at any time the "follow-up" modeling demonstrates a modeled exceedance of the NAAQS or the applicable State Air Toxic Pollutant Standards, or the Monitors demonstrate an actual exceedance of the NAAQS, or the applicable State Air Toxic Pollutant Standards, Mirant shall report such modeled or monitored exceedance to the Department, EPA and the City of Alexandria within 3 days of the modeled or monitored exceedance, or as immediately as practicable upon receiving the results of follow up modeling or monitoring showing the modeled or monitored exceedance, for a determination by the Department as to whether corrective action is required.

## **Reporting**

11. Commencing June 2, 2007, Mirant shall deliver to the Department, EPA and the City of Alexandria bi-weekly: (1) the modeled input files and results of the daily Predictive Modeling for the preceding month, including for each unit the SO<sub>2</sub> emission rates, the hourly average heat input in MMBtu, the exit velocity (or exhaust volume) and stack exhaust temperature; (2) verification that the planned Operating Parameters' SO<sub>2</sub> and PM<sub>10</sub> emission rates utilized for Predictive Modeling in the preceding month were not exceeded, or if exceeded, documentation describing that exceedance; (3) the model input files and results of "follow-up" modeling for the preceding month (or portion thereof during which all Monitors were not in place), including for each unit the SO<sub>2</sub> emission rates, hourly average heat input

in MMBtu, the exit velocity (or exhaust volume) and stack exhaust temperature, as measured by in-stack monitors; (4) the meteorological data used for each day of Predictive Modeling and each day of follow-up modeling; and (5) for each day of the preceding month, a listing of each 3-hour period's maximum predicted SO<sub>2</sub> impact value and location for both predicted and follow-up modeling, and each daily period's maximum predicted 24-hour SO<sub>2</sub> and PM<sub>10</sub> impact and location for predicted and follow-up modeling. All such reports shall be publicly available and Mirant waives any claims it might have that such reports contain confidential business information.

12. Commencing June 2, 2007, Mirant shall deliver in electronic format to the Department, EPA and the City of Alexandria on a weekly basis all data generated by the Monitors required by this Order, including for each unit five-minute and hourly SO<sub>2</sub> emissions, and the results of the TCLP sampling and analysis of post-trona flyash.
13. Within 15 days from the approval of this Consent Order, Mirant shall also deliver in electronic format to the Department, EPA and the City of Alexandria the following data: (1) 6-minute interval opacity data for each of the Facility's boilers for pre- and post-trona operations for the years 2003, 2004, 2005 and 2006 as measured by continuous opacity monitors; (2) hourly CO CEM data for each of the Facility's boilers for the years 2003, 2004, 2005 and 2006 as measured by in-stack monitors; (3) hourly operational data for each of the Facility's boilers for the years 2003, 2004, 2005 and 2006, including coal firing rate, trona injection rates, and stack exhaust temperature and MW output as measured by in-stack monitors; and (4) all data collected by SO<sub>2</sub> monitors which were stipulated within the ACO's Model Evaluation Study Protocol but not provided to date, including SO<sub>2</sub> ambient concentrations collected on Harbor Terrace, and all calibration printouts showing 5-minute SO<sub>2</sub> values used in forming hourly averages.

#### **Operation During Line Outage Situations**

14. From the effective date of this Order, during a Line Outage Situation, Mirant shall operate the Facility to produce the amount of power needed to meet the load demand in the Washington, D.C. area, as specified by PJM and in accordance with the DOE Order. During such operations, Mirant shall utilize pollution control equipment and measures to the maximum extent possible under the circumstances to limit the emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, NOx, and SO<sub>2</sub> from each boiler, including operating only the number of units necessary to meet PJM's directive pursuant to the DOE Order or the number that satisfy the predictive modeling, and optimizing its use of Trona injection to minimize SO<sub>2</sub> emissions. Mirant, at a minimum, shall operate the facility in accordance with best air pollution control practices as identified in Appendix 2 to this Order. During a Line Outage Situation, Mirant shall achieve 0.55 lb/MMBtu SO<sub>2</sub> emissions on a rolling 24 hour average basis.
  - a. If Mirant has 30 days notice in advance of a Line Outage Situation, it shall submit a plan based on the criteria above to the Department for approval 15 days before commencement of the Line Outage describing how Mirant intended to limit emissions during the Line Outage Situation. In the event that Mirant demonstrates in the plan that an emissions level of 0.55 lb/MMBtu is not logically feasible because of factors such

as the quantity of available Trona and predicted duration of the outage, the plan shall describe how Mirant otherwise intended to optimize its use of Trona injection so as to maximize SO<sub>2</sub> reduction and it shall propose control measures and removal efficiencies to be achieved during the Line Outage Situation.

- b. If Mirant has fewer than 30 days advance notice of the Line Outage Situation, Mirant shall submit the plan referred to in the subsection above to the Department for approval as promptly as reasonably possible under the circumstances but not later than five days from the notification date. The plan to be followed for an unscheduled Line Outage Situation will depend upon the specific circumstances at the time of the unscheduled Line Outage Situation.
15. Non-avoidable malfunctions of emission control devices, such as Trona injection, shall not be deemed a failure to limit the emissions during a Line Outage Situation, provided that Mirant has made all reasonable efforts under the circumstances to avoid the malfunction and to promptly correct the malfunction. All emissions during Non-Line and Line Outage Situations count toward any other permit, statutory, or regulatory limits for the Facility. If operation of the Facility during a Non-Line Outage causes or significantly contributes to a monitored or follow-up modeled exceedance of the NAAQS or the applicable State Air Toxic Pollution Standards, this Order shall not prevent the Department from issuing an appropriate order or otherwise taking appropriate action under DEQ regulations.
16. During Line Outage Situations, Predictive Modeling must continue to be performed but the Facility shall be operated under the Line Outage Situation provision in accordance with the DOE Order and this Order.

#### **Annual NOx Emission Limit and PM<sub>10</sub> Emission Rate Limit**

17. The Facility shall not emit more than 3,700 tons of NOx per year.
18. The Facility shall not emit more than 1,019 tons of NOx from between May 1 through September 30 (the Ozone Season) of that same year.
19. The Facility shall limit the emission rate of PM<sub>10</sub> for each unit to 0.055 lb/MMBtu.

#### **Additional Particulate Matter and Fugitive Dust Control**

20. As of the effective date of this Order, Mirant shall have implemented and be operating the particulate matter and fugitive control measures identified in Appendix 3 of this Order.

#### **General Provisions**

21. Mirant's actions shall be consistent with all provisions of federal and state law, including but not limited to, the Clean Air Act, all federal regulations promulgated under the Clean Air Act, and any other applicable laws, including the Virginia SIP.

22. Mirant shall cooperate with the Department in the development of non-varying permit emission limits protective of all NAAQS or applicable State Air Toxic Pollutant Standards. Mirant agrees to submit and provide to the Department on a timely basis all information requested by the Department for the development and issuance of any air permit.
23. Mirant agrees that the obligations of this Order, to the extent they have not been completed, may become obligations in an air permit issued to Mirant.
24. To the extent consistent with this Order, the terms of the September 23, 2004, Order by Consent between the Department and Mirant are incorporated herein by reference. Notwithstanding any requirements of this Order, Mirant remains obligated under the terms of the Order by Consent to eliminate and prevent any NAAQS exceedances caused by the Facility.

#### **Section E: Administrative Provisions**

1. This Order shall apply to and be binding upon Mirant, its agents, successors, and assigns and upon all persons, contractors and consultants acting under or for Mirant, or persons acting in concert with Mirant who have actual knowledge of this Order or any combination thereof with respect to matters addressed in this Order. No change in ownership or corporate or partnership status will in any way alter Mirant's responsibilities under this Order.
2. This Order addresses only those issues specifically identified herein. This Order shall not preclude the Board or the Director from taking any action authorized by law, including, but not limited to taking subsequent action to enforce the terms of this Order. This order shall not preclude appropriate enforcement actions by other federal, state or local regulatory agencies for matters not addressed herein.
3. Subject to the Force Majeure provisions in Section E.8, failure by Mirant to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or Director as a result of such violations. None of the provisions of this Order shall constitute a waiver from enforcement for any exceedance of the NAAQS for the duration of the Order.
4. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.
5. Mirant shall be responsible for failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or other such circumstance. Mirant must show that such circumstances resulting in noncompliance were beyond its control and not due to a lack of good faith or diligence on its part. Mirant shall notify the Department in writing when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of this Order. Such notice shall set forth:

- a. The reasons for the delay or noncompliance.
  - b. The projected duration of any such delay or noncompliance.
  - c. The measures taken and to be taken to prevent or minimize such delay or noncompliance.
  - d. The timetable by which such measures will be implemented and the date full compliance will be achieved.
6. Failure to so notify the Department in writing within 24 hours of learning of any condition above, which Mirant intends to assert will result in the impossibility of compliance, shall constitute a waiver of any claim of inability to comply with a requirement of this Order.
7. All notifications, plans, reports, or other information Mirant is required to submit to the

Department pursuant to this Order shall be sent to:  
Director, Northern Regional Office  
Virginia Department of Environmental Quality  
13901 Crown Court  
Woodbridge, VA 22193

and

Director  
Department of Transportation and Environmental Services  
City of Alexandria  
301 King Street  
Alexandria, VA 22314

8. This Order shall become effective upon execution by both the Director of the Department of Environmental Quality or his designee and Mirant.
9. This Order shall continue in effect until the effective date of a permit issued to the Facility which contains limits that assure that emissions from the Facility do not result in modeled exceedances of the NAAQS or the applicable State Air Toxic Pollutant Standards for all pollutants, or September 30, 2007 whichever comes first. If the aforementioned permit has not been issued to the Facility by September 30, 2007, the operation of the Facility should be based on one of the operational scenarios as listed in Appendix 1 of this Order.
10. Termination of this Order, or of any obligation imposed in this Order, shall not operate to relieve Mirant from its obligation to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.

AND IT IS ORDERED this \_\_\_\_\_ day of \_\_\_\_\_, 2007.

By: \_\_\_\_\_  
David K. Paylor, Director  
Department of Environmental Quality

Mirant Potomac River, LLC, agrees to the issuance of this Order.

Mirant by: \_\_\_\_\_

The foregoing instrument was signed and acknowledged before me on this \_\_\_\_\_ day of  
\_\_\_\_\_, 2007 by \_\_\_\_\_ of Mirant Potomac River, LLC, in the City of  
\_\_\_\_\_, Commonwealth of Virginia.

\_\_\_\_\_  
Notary Public

My Commission expires: \_\_\_\_\_